Issue Brief: Evaluation Project Results Report School Nurse Asthma Care Management Equipment Use Survey

Missouri Asthma Prevention and Control Program

Missouri Department of Health and Senior Services
Missouri Asthma Prevention and Control Program
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Evaluation Project Results Report School Nurse Asthma Care Management Equipment Use Survey

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Project

School Nurse Asthma Care Management Equipment Use Survey

Primary Evaluation Question(s)

How many school nurses are using the asthma care management equipment (i.e., FEV-1 meter and inhalation technique assessment device) for which they received training more than a year ago?

For More Information

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Funding for this project was provided the US Centers for Disease Control and Prevention under federal award number 5U59EH000510-04, Addressing Asthma from a Public Health Perspective.

Contents

Conclusions

The survey method included responses from 157 school nurses from 97 public school districts across Missouri.

Among school nurses responding to the survey, 66% reported using equipment for FEV-1/peak flow monitoring (Asma-1®) and 60 percent reported using inhalation technique assessment (In-Check Dial®), during the current academic year (2012-2013), adjusting for those who did not have equipment on hand. Given all respondents received training more than one year before the survey was administered, these use statistics provide evidence that the majority of school nurses in this sample were applying training and using the equipment in the care of children with asthma a year or more after training.

The data about non-users suggests that about a third of them are receptive to changing equipment use practices upon training and/or technical assistance. In addition, this survey provided information to guide the Missouri Asthma Prevention and Control Program's (MAPCP) future training and workforce development efforts to increase use of asthma care management equipment, specifically by offering the following:

- a refresher training course
- programs to enhance physician/specialist collaboration
- tools to identify with asthma needing assessment

Recommendations for Program Improvement

Current procedures by the University of Missouri team do not include systematic follow-up with training program participants. All training programs should include one-week, one-month and annual follow-up to assess program satisfaction, trial application of training program material, skill acquisition, and changes to asthma care practices/policies.

The MAPCP and its partners need to cultivate and maintain strong relationships with school nurses. It is recommended that MAPCP and/or its training partner, the University of Missouri, communicate regularly with training program participants to provide resources as well as practical tips and messages that reinforce training program goals.

"Partners need to provide resources and messages that reinforce training program goals."

Evaluation Project Methods

924 school nurses received demonstration equipment and training under two programs.

Over the past five years, the Missouri Asthma Prevention and Control Program (MAPCP) has trained school and clinic nurses on how to use two key pieces of asthma care management equipment: FEV-1 meter (Asma-1®) and inhalation technique assessment device (In-Check Dial®).

Per program records maintained by the training program provider (University of Missouri), 924 school nurses received demonstration equipment and training under two programs: Teaming Up for Asthma Control® and Becoming and Asthma Educator and Care Manager®.

The latter program, licensed by the Association of Asthma Educators, was the cornerstone of school nurse workforce development efforts in Missouri from 2007 to 2010. Email addresses on file for 881 of these school nurses were used to distribute a web-based survey from April 29 to May 14, 2013, about current use of the equipment. Email distribution was managed by the Missouri School Health Program. After processing undeliverable/bounce emails, the survey was successfully sent to 822 unique email addresses.

While this survey distribution methodology does not assure the messages were received by the intended recipient, it was deemed an appropriate approach to address this project's primary evaluation question.

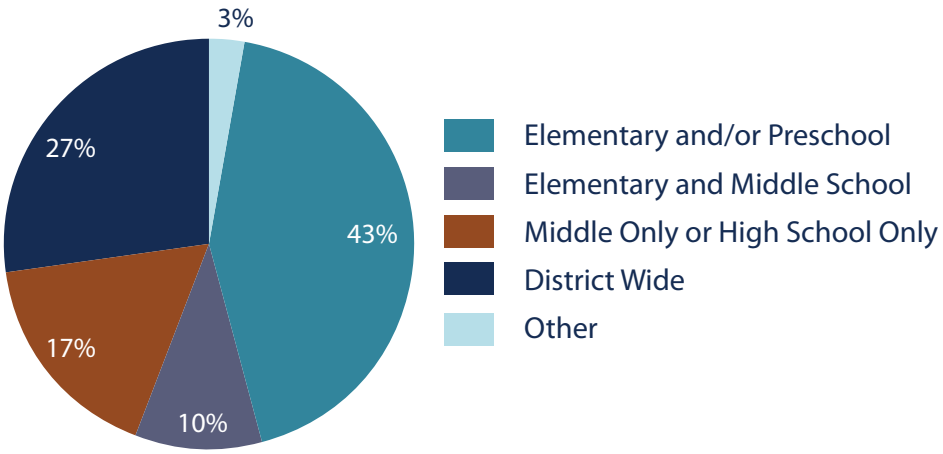
Results

About the Respondents

Valid survey responses were received (157) yielding an estimated response rate of 19%.

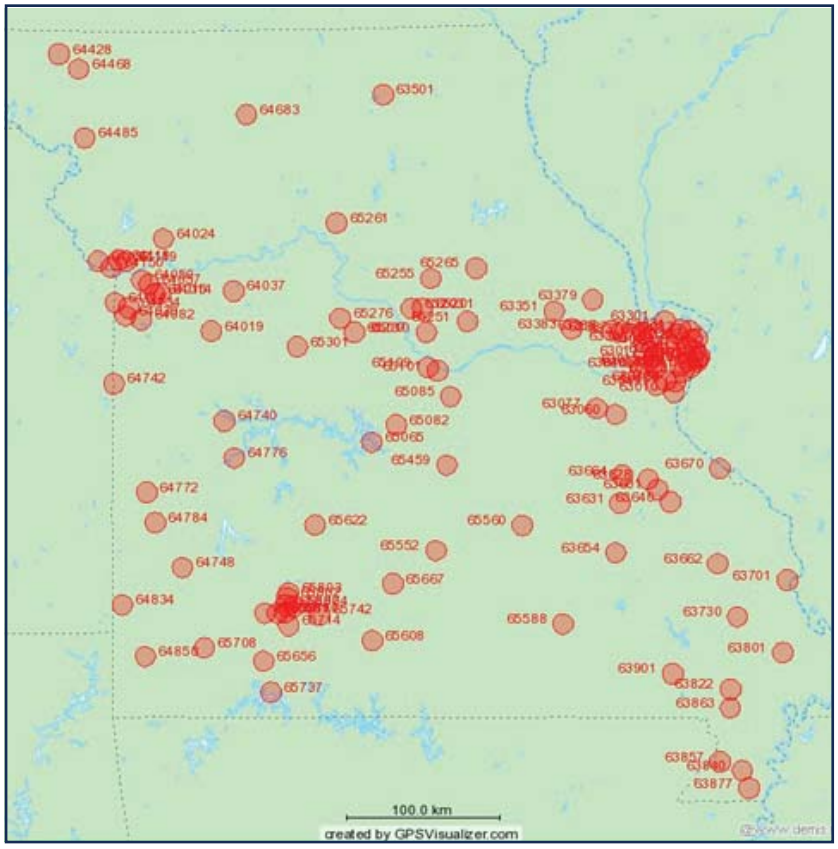
Of the respondents, 43% (n = 68) served in a preschool and/or elementary school setting; 9.5% (n = 16) in elementary and middle school; 17% (n = 26) in middle or high school only; 27% (n = 43) district wide; and 3.2% (n = 5) other. See Figure 1.

Figure 1. Type of School Nurse Responding to Survey (n = 157)



Results

Figure 2. Map of Respondents by Zip Code of School/ Office Address



Responses were received from 97 public school districts, drawn from all parts of Missouri, as shown in Figure 2.

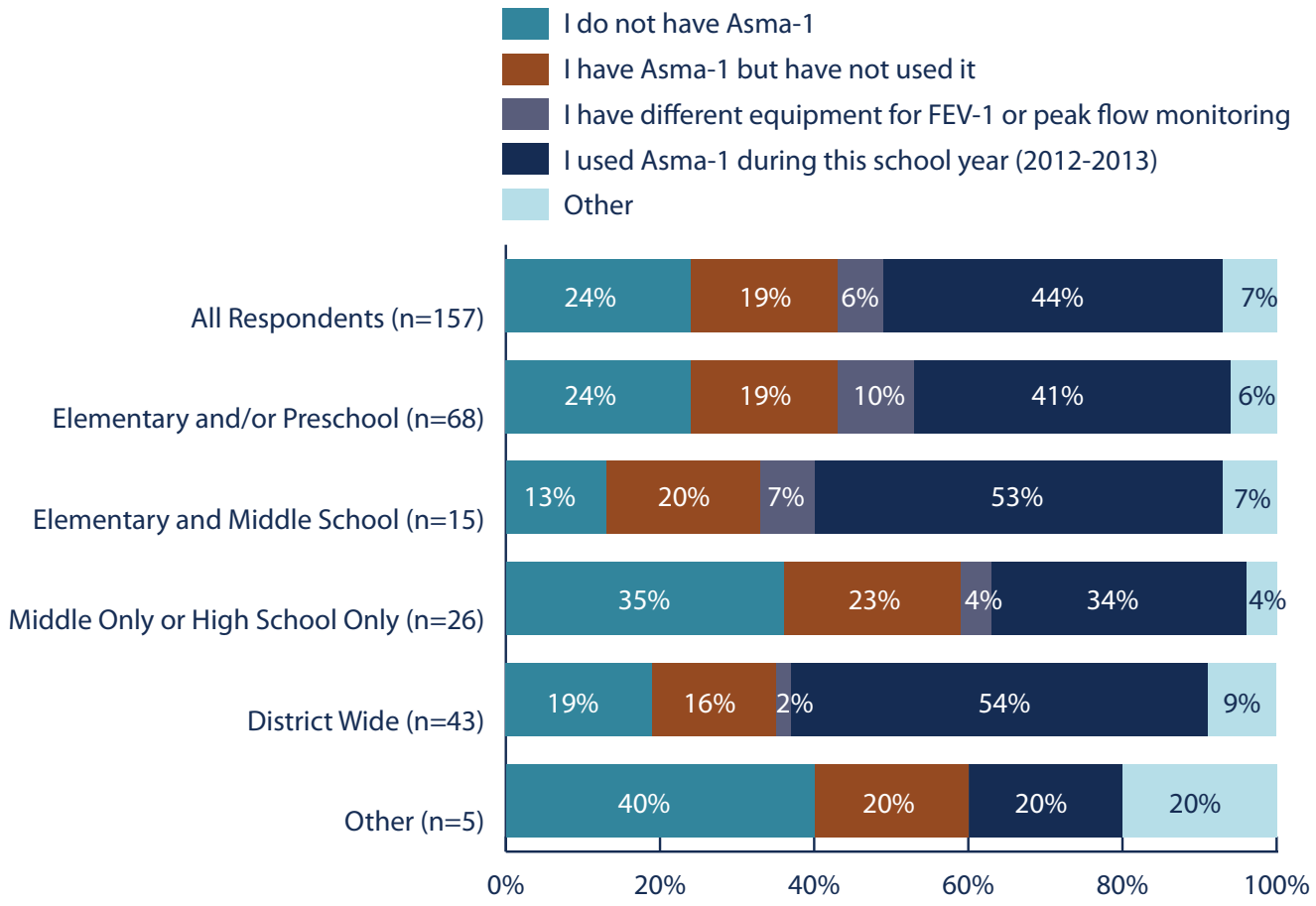
Equipment Use

Twenty-three respondents (or 15%) did not have either piece of equipment on hand.

Forty-four (44%) of respondents indicated they used Asma-1 for FEV-1 or peak flow monitoring during the current academic year (2012-2013); an additional 6% reported using a different type/brand of equipment for the same purpose. Overall, 19% of respondents reported having Asma-1 on hand but have not used it. There was a modest difference in equipment use depending on the grade level served by the school nurse, as shown in Figure 3.

Results

Figure 3. Use of Asma-1 Equipment for FEV-1 or Peak Flow Monitoring



Results

There was a high correlation of use between the two devices, as 80% of respondents who used the Asma-1 also used In-Check Dial.

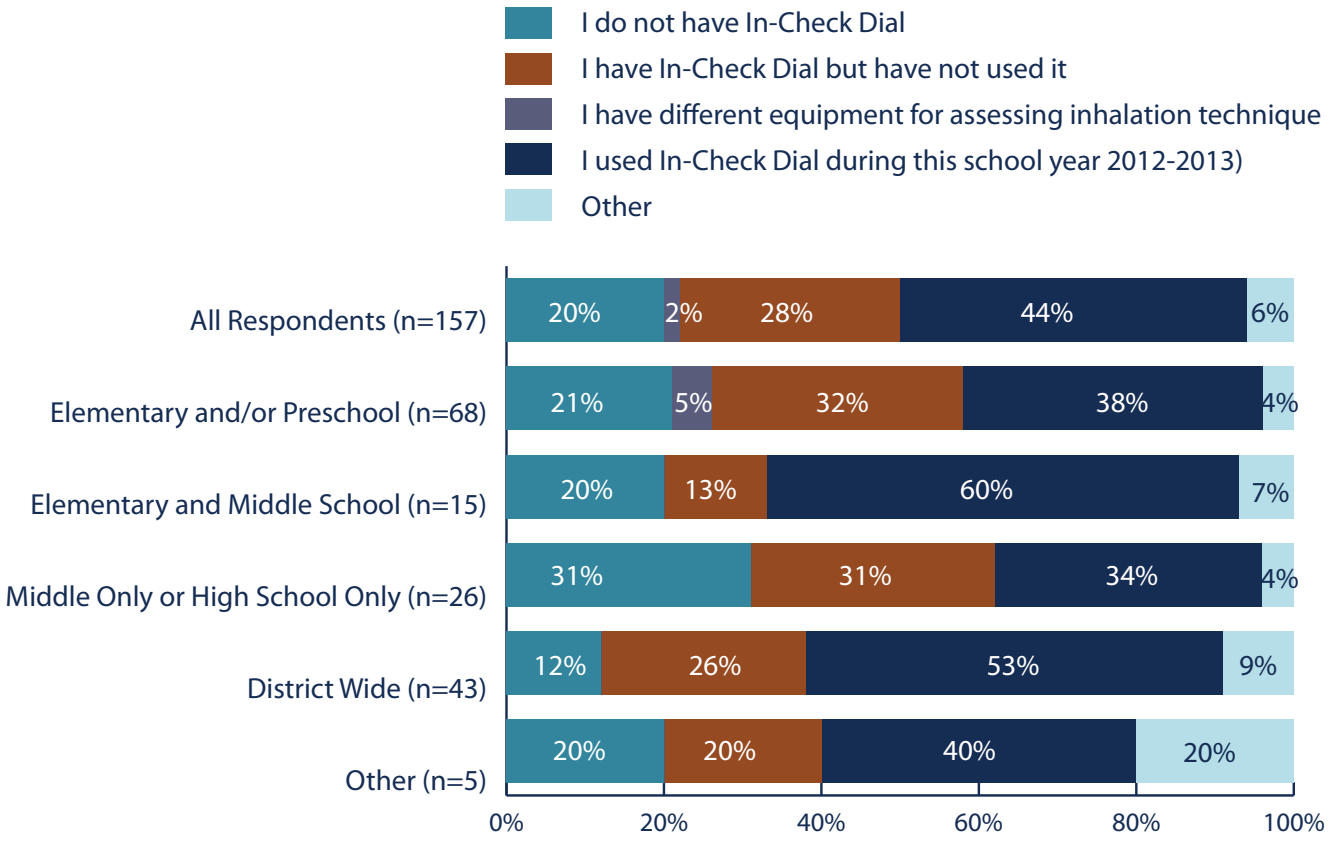
Despite program records indicating all persons receiving the survey were trained on device use and were given equipment, nearly one-fourth of respondents reported they did not have Asma-1 or use another device for FEV-1 or peak flow monitoring. Adjusting for respondents who reported not having the equipment on hand, 66% of respondents reported they used Asma-1 or other equipment for FEV-1 or peak flow monitoring during the current academic year (2012-2013).

Forty-four (44%) of respondents indicated they used In-Check Dial for inhalation technique assessment during the current academic year (2012-2013); an additional 2% reported using a different type/brand of equipment for the same purpose. Similar to non-use rates reported for Asma-1, 20% of all respondents reported having In-Check Dial on hand but had not used it. In comparison to Asma-1, the differences in equipment use by school nurse type were greater for In-Check Dial, as shown in Figure 4, with the highest rates of use among nurses serving elementary/middle schools and district wide. Despite program records indicating all persons receiving the survey were trained on device use and were given equipment, nearly one-fifth of respondents reported they did not have In-Check Dial. Adjusting for respondents who reported not having the equipment on hand, 60% of respondents reported they used In-Check Dial or other equipment to assess inhalation technique during the current academic year (2012-2013).

There was high correlation of use between the two devices, as 80% of respondents who used the Asma-1 also used In-Check Dial. Similarly, 59% of respondents who reported they did not have an Asma-1 also reported not having an In-Check Dial.

Results

Figure 4. Use of In-Check Dial Equipment for Inhalation Assessment



Results

"Are you interested in additional training on using asthma care management equipment, such as Asma-1 and In-Check Dial?"

Ways to Improve Use of Asthma Care Management Equipment

Two-thirds (66%) of respondents reported they were interested in additional training on using asthma care management equipment, such as Asma-1 or In-Check Dial. There was no statistically significant difference in additional training interest between school nurse types. Refer to Figure 5. A refresher training course was the most frequent response regarding how to improve equipment use in the future, followed by enhanced physician/specialist collaboration and better identification of children with asthma needing assessment. Refer to Figure 6. Preschool/elementary and district wide school nurses were more likely to report a need for better physician/specialist collaboration whereas school nurses serving middle/high school indicated a need for better identification of children with asthma.

Figure 5. Response to Survey Question

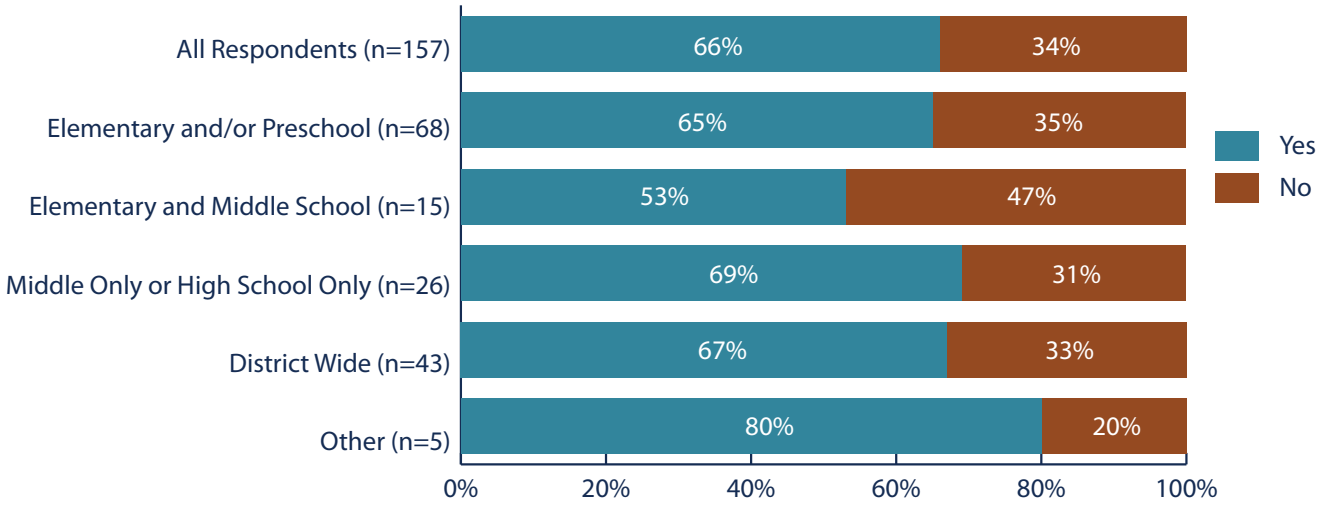
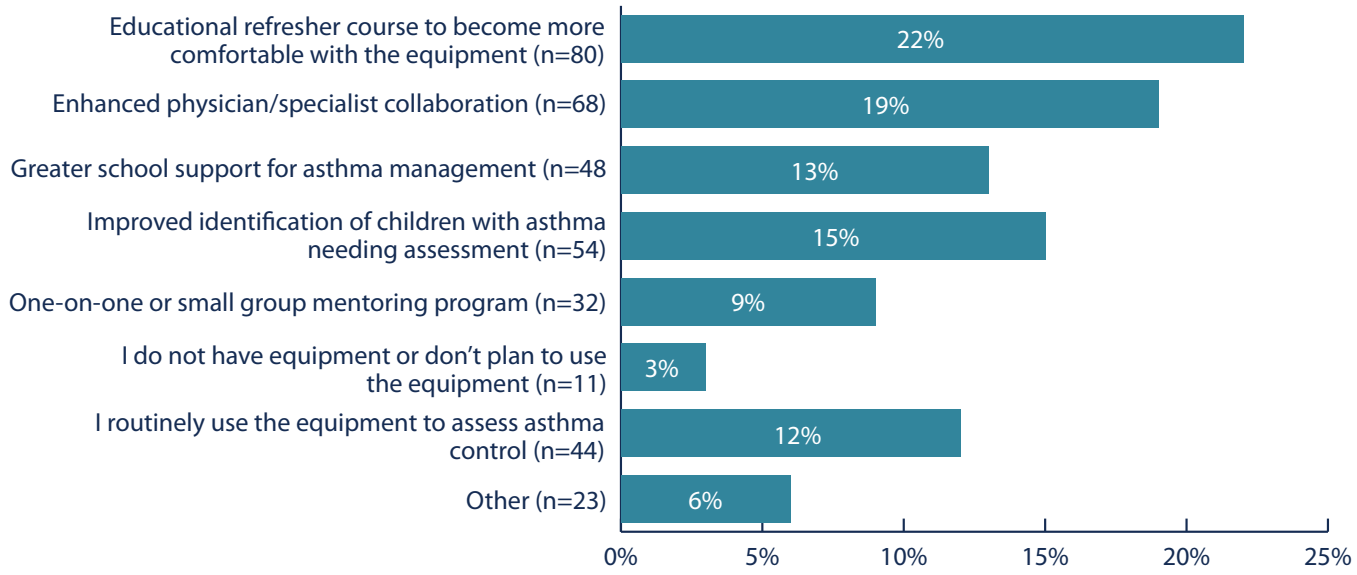


Figure 6. Respondent Choices for Ways to Increase Future Use of Asthma Management Equipment

Note: Respondents were able to select multiple choices for this survey item. A total of 360 choices were made by 157 respondents.



Non-Users

About one-third of respondents who did not use Asma-1 (27%) or In-Check Dial (29%) reported they were willing to receive training on how to use the equipment and incorporate it into practice. The majority (55% to 59%) of respondents who did not use Asma-1 and In-Check Dial were not interested in changing their own care management practices to incorporate the equipment, but did indicate the equipment should be retained by the school for future use by the district, presumably by a different nurse.

Generalizability & Limitations

The sample was not heavily skewed toward school nurses serving only preschool/ elementary students.

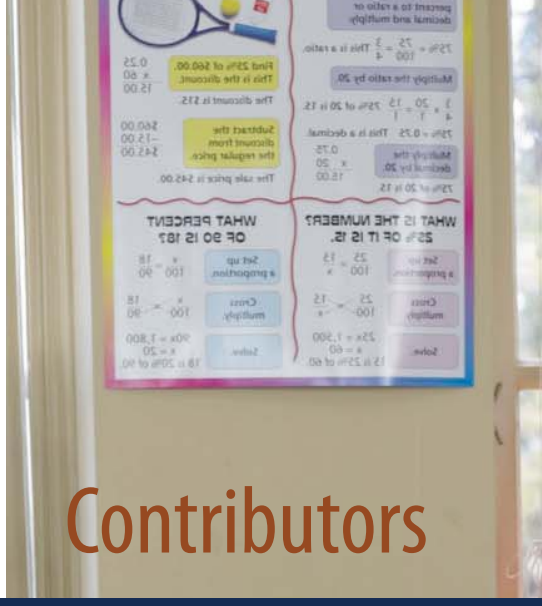
The prior target response rate for this survey was 20%. The goal was set based on a combination of factors: turn-over rates among school nurses, age of the email list, and web-based survey method. The observed response rate of 19% was near the goal. The broad geographic distribution of respondents indicates the survey reached a diverse set of schools, including 9 of the ten largest districts in the state. The distribution of school nurse type (e.g., district wide, preschool/ elementary) suggests the sample is drawn from the population of school nurses in the state which has a similar profile. In other words, the sample was not heavily skewed toward school nurses serving only preschool/elementary students.

Limitations

The results do not account for relative differences in student enrollment, and therefore, the reach of equipment use.

The time since training, which could be an important confounding variable, is not considered in the analysis for this report. However, all respondents received training more than one year before the survey was administered.

The survey did not examine frequency of equipment use or school nurse competency in using such devices.



Contributors

This evaluation project was made possible through a collaboration of MAPCP staff and partners. The following individuals made important contributions to the development and implementation of this project, including survey design, survey administration, data analysis and report writing.

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Survey Instrument

http://fs2.formsite.com/openform/form15/index.html

Asthma Care Management Equipment Use Survey

School nurses across the state of Missouri have attended Missouri Asthma Training Programs over the last five years. Our records indicate you or a representative of your school attended one of these trainings.

Please complete this brief survey about your current use of asthma assessment tools that were distributed at the training(s). Your response will help the Missouri Asthma Prevention and Control Program develop plans to support school nurses in their efforts to care for children with asthma.

Thank you,

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Asthma Assessment Tools

Asma-1
This device measures FEV-1 and peak flow.

In-Check Dial
This device helps with assessment and teaching of inhalation technique.

(continued on same screen)

Survey Questions

* **Which of these statements best describes your use of the Asma-1 equipment?**

- ○ I do not have Asma-1
- ○ I have Asma-1, but have not used it
- ○ I used Asma-1 during this school year (2012-2013)
- ○ I have different equipment for FEV-1 or peak flow monitoring
- ○ Other _____

* **Which of these statements best describes your use of the In-Check Dial equipment?**

- ○ I do not have In-Check Dial
- ○ I have In-Check Dial, but have not used it
- ○ I used In-Check Dial during the this school year (2012-2013)
- ○ I have different equipment for assessing inhalation technique
- ○ Other _____

*** Are you interested in additional training on using asthma care management equipment, such as Asma-1 and In-Check Dial?**

○ Yes ○ No

*** What would contribute most to your future use of the asthma management equipment? (Check all that apply.)**

- ☐ I do not have equipment or don't plan to use the equipment
- ☐ I routinely use the equipment to assess asthma control
- ☐ Educational refresher course to become more comfortable with the equipment
- ☐ Greater school support for asthma management
- ☐ One-on-one or small group mentoring program
- ☐ Improved identification of children with asthma needing assessment
- ☐ Enhanced physician/specialist collaboration
- ☐ Other _____

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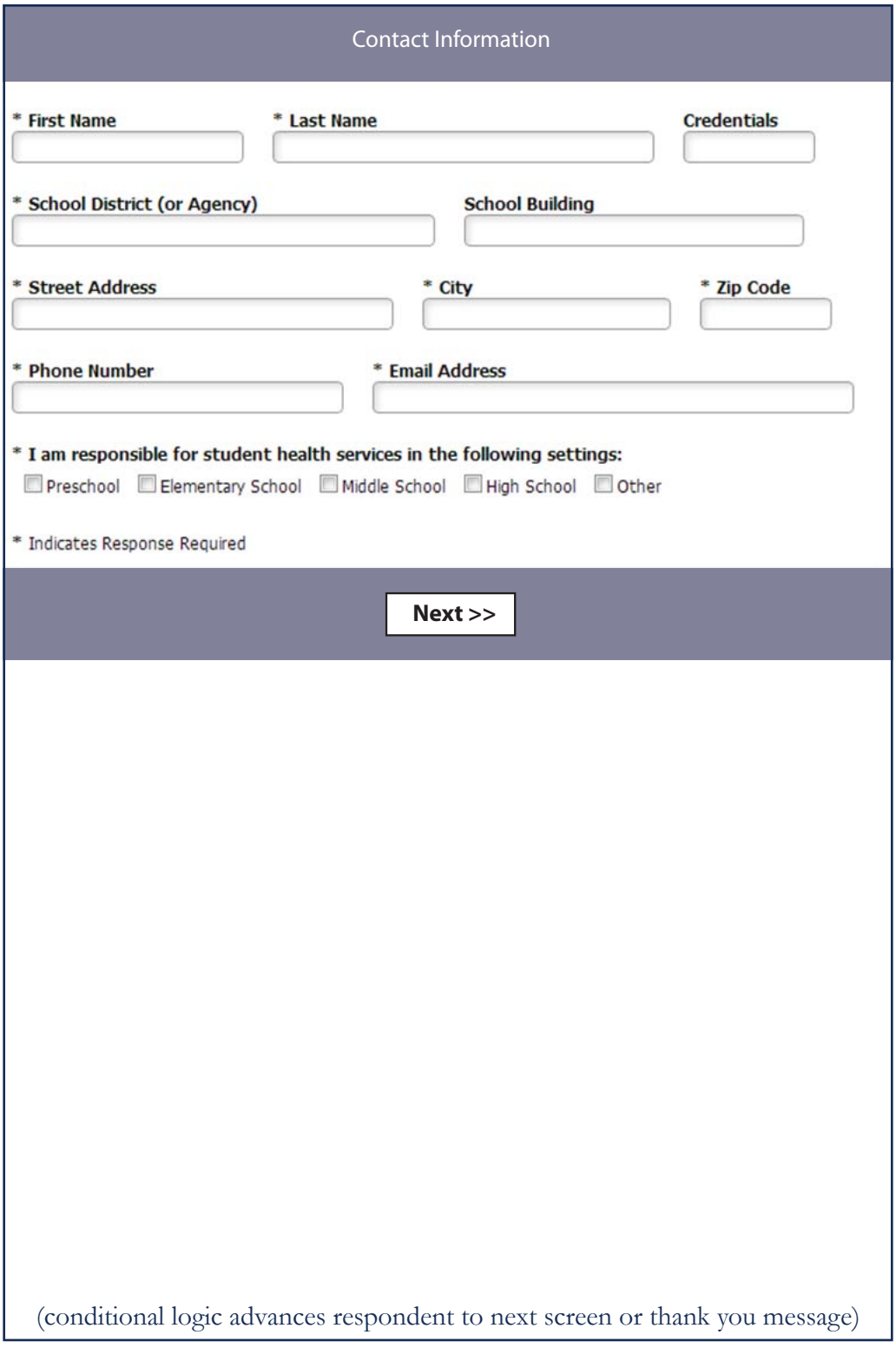

Contact Information
* First Name
* Last Name
Credentials
* School District (or Agency)
School Building
* Street Address
* City
* Zip Code
* Phone Number
* Email Address
* I am responsible for student health services in the following settings:
Preschool
Elementary School
Middle School
High School
Other
* Indicates Response Required
Next >>
(conditional logic advances respondent to next screen or thank you message)

Equipment Use Pledge

* **[pipe:25], you indicated that you have Asma-1 equipment, but are not using it as part of your regular asthma care management. Which of the following do you prefer to do?**

- ○ Return the equipment so it can be re-purposed and/or re-directed to another school nurse. A member of the program team will contact you to coordinate the return shipping or pick-up.
- ○ Receive training on how to use the equipment and incorporate it into practice.
- ○ Keep the equipment at the school for future use by the district.
- ○ Other

* **[pipe:25], you indicated that you have In-Check Dial equipment, but are not using it as part of your regular asthma care management. Which of the following do you prefer to do?**

- ○ Return the equipment so it can be re-purposed and/or re-directed to another school nurse. A member of the program team will contact you to coordinate the return shipping or pick-up.
- ○ Receive training on how to use the equipment and incorporate it into practice.
- ○ Keep the equipment at the school for future use by the district.
- ○ Other

* **[pipe:25], you indicated that you have used Asma-1 equipment during the past school year (2012-2013). Which of the following do you prefer to do?**

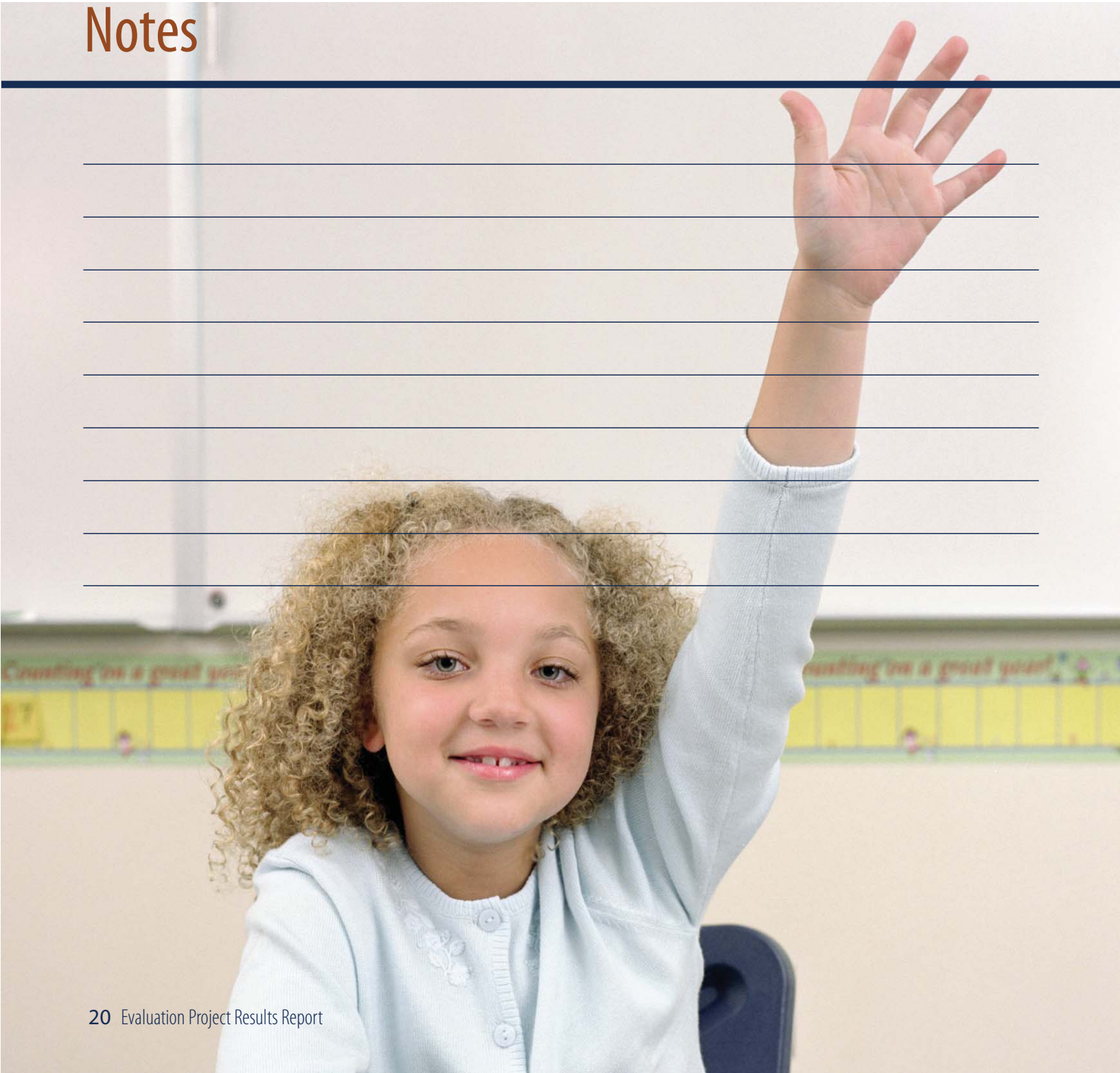
- ○ Keep the equipment for next year.
- ○ Return the equipment so it can be re-purposed and/or re-directed to another school nurse. A member of the program team will contact you to coordinate the return shipping or pick-up.
- ○ Keep the equipment and receive additional training on how to use the equipment and incorporate it into practice.
- ○ Other

* **[pipe:25], you indicated that you have used In-Check Dial equipment during the past school year (2012-2013). Which of the following do you prefer to do?**

- ○ Keep the equipment for next year.
- ○ Return the equipment so it can be re-purposed and/or re-directed to another school nurse. A member of the program team will contact you to coordinate the return shipping or pick-up.
- ○ Keep the equipment and receive additional training on how to use the equipment and incorporate it into practice.
- ○ Other

* Indicates Response Required

Notes



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